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PATENT

Attorney Docket No.: SAM-009

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Kim Issue Date: 10/26/99
U. S. Patent No.: 5,973,329 Filing Date: 4/22/98
Serial No.: 09/062,314
Title: Ion Generating Apparatus for Semiconductor Manufacturing Equipment
Including Magnetic Field Switching Apparatus

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited with the United States Post Office as First Class Mail on the date indicated below in an envelope addressed to Assistant Commissioner for Patents, Washington, DC 20231.

July 18, 2001
Date

Vanessa M. Marakas
Vanessa Marakas

Assistant Commissioner for Patents
Washington, D.C. 20231

POWER OF ATTORNEY BY ASSIGNEE OF ENTIRE INTEREST
WITH REVOCATION OF PRIOR POWERS AND
CERTIFICATION UNDER 37 CFR 3.73(b)
FOR A PLURALITY OF PATENT APPLICATIONS AND PATENTS

Sir:

Samsung Electronics Co., Inc., the assignee of record of the entire interest of the U. S. patent applications identified in Table 1 below and the issued U. S. patents identified in Table 2 below, hereby revokes all powers of attorney previously given and hereby grants new powers of attorney to the following attorney(s) and/or agents, all of the firm Mills & Onello, LLP, Eleven Beacon Street, Suite 605, Boston, Massachusetts, to prosecute and transact all business in the Patent and Trademark Office connected therewith.

Steven M. Mills - 36,610

Anthony P. Onello, Jr. - 38,572

SEND ALL CORRESPONDENCE AND DIRECT ALL TELEPHONE CALLS IN
CONNECTION WITH ALL OF THE APPLICATIONS AND PATENTS TO:

Mills & Onello, LLP
Eleven Beacon Street, Suite 605
Boston, Massachusetts 02108
Telephone: (617) 994-4900
Facsimile: (617) 742-7774

Table 1: U.S. Patent Applications

Serial Number	Filing Date	Assignment Recordation Date	Reel	Frame	Attorney Docket Number
09/009,211	1/20/98	6/29/98	9320	0888	SAM-001
09/512,128	2/24/00	4/24/00	010775	0511	SAM-003
60/121,764	2/26/99	4/26/99	9913	0053	SAM-003PR
09/714,392	11/16/00				SAM-008CIPDIV
09/560,359	4/28/00				SAM-008DIV
09/072,280	5/4/98	5/4/98	9159	0911	SAM-010
09/082,170	5/20/98	5/20/98	9189	0228	SAM-012
09/757,747	1/10/01				SAM-013DIV
09/060,242	4/14/98	7/13/98	9316	0800	SAM-016
09/174,394	10/14/98	10/14/98	9522	0115	SAM-020
09/082,353	5/20/98	5/20/98	9189	0203	SAM-023
09/089,525	6/3/98	8/17/98	9391	0247	SAM-024
09/140,152	8/26/98	8/26/98	9415	0385	SAM-025
09/103,430	6/24/98	9/24/98	9474	0839	SAM-034
09/162,267	9/29/98	3/22/99	9836	0661	SAM-038
60/090,137	6/22/98				SAM-038PR
09/198,230	11/23/98	11/23/98	9606	0518	SAM-041
09/847,639	5/2/01				SAM-041DIV
09/139,921	8/26/98	10/30/98	9568	0238	SAM-042
09/195,893	11/19/98	11/19/98	9606	0616	SAM-043
09/205,545	12/3/98	1/22/99	9932	0332	SAM-048
09/135,288	8/17/98	10/22/98	9545	0535	SAM-049
09/182,358	10/29/98	10/29/98	9563	0887	SAM-052
09/153,169	9/15/98	12/10/98	9637	0972	SAM-053

Table 1: U.S. Patent Applications (cont.)

Serial Number	Filing Date	Assignment Recordation Date	Reel	Frame	Attorney Docket Number
09/175,088	10/19/98	10/19/98	9523	0430	SAM-054
09/841,652	4/24/01				SAM-054DIV
09/187,396	11/6/98	11/6/98	9573	0096	SAM-056
09/251,539	2/17/99	7/12/99	010077	0234	SAM-059
09/189,192	11/10/98	1/12/99	9687	0858	SAM-060
09/195,591	11/18/98	11/18/98	9597	0721	SAM-061
09/298,732	4/23/99	4/23/99	9920	0244	SAM-065
09/300,924	4/28/99	4/28/99	9928	0356	SAM-066
09/316,595	5/21/99	5/21/99	009982	0957	SAM-067
09/313,486	5/17/99	5/17/99	009979	0735	SAM-068
09/273,643	3/23/99	3/23/99	9850	0209	SAM-069
09/296,218	4/22/99	4/22/99	9914	0014	SAM-070
09/311,327	5/13/99	5/13/99	009963	0028	SAM-071
09/351,092	7/9/99	7/9/99	010099	0957	SAM-072
09/298,652	4/23/99	4/23/99	9921	0433	SAM-073
09/349,372	7/8/99	7/8/99	010094	0479	SAM-075
09/344,602	6/25/99	6/25/99	010065	0524	SAM-076
09/354,247	7/15/99	7/15/99	010102	0830	SAM-079
09/449,147	11/24/99	11/24/99	010412	0516	SAM-080
09/478,162	1/5/00	1/5/00	010497	0292	SAM-081
09/490,035	1/21/00	1/21/00	010549	0769	SAM-084
09/819,448	3/28/01				SAM-084DIV
09/479,602	1/7/00	1/7/00	010534	0415	SAM-085
09/441,860	11/17/99	7/17/00	010978	0001	SAM-086

Table 1: U.S. Patent Applications (cont.)

Serial Number	Filing Date	Assignment Recordation Date	Reel	Frame	Attorney Docket Number
09/695,341	10/24/00	10/24/00	011265	0976	SAM-087
09/782,116	2/13/01				SAM-087CIP
60/161,479	10/25/99				SAM-087PR
09/477,235	1/4/00	1/4/00	010517	0574	SAM-088
09/514,744	2/28/00	2/28/00	010642	0839	SAM-090
09/481,158	1/12/00	1/12/00	010500	0180	SAM-091
09/539,138	3/30/00	3/30/00	010709	0413	SAM-092
09/525,730	3/14/00	3/14/00	010694	0722	SAM-093
09/492,589	1/27/00	1/27/00	010551	0374	SAM-094
09/538,879	3/30/00	3/30/00	010713	0341	SAM-095
09/524,069	3/13/00	3/13/00	010670	0441	SAM-096
09/521,904	3/9/00	3/9/00	010670	0702	SAM-097
09/484,974	1/18/00	1/18/00	010542	0081	SAM-098
09/476,567	1/3/00	1/3/00	010521	0391	SAM-099
09/513,796	2/25/00	2/25/00	010643	0359	SAM-100
09/620,666	7/20/00	7/20/00	010989	0239	SAM-103
09/513,712	2/25/00	2/25/00	010636	0802	SAM-104
09/645,285	8/24/00	8/24/00	011059	0830	SAM-105
09/639,833	8/16/00	8/16/00	011050	0151	SAM-106
09/491,383	1/26/00	1/26/00	010554	0267	SAM-107
09/481,251	1/11/00	4/5/00	010730	0275	SAM-108
09/677,029	9/29/00	9/29/00	011168	0092	SAM-109
09/552,424	4/19/00	4/19/00	010759	0475	SAM-110
09/630,292	8/1/00	8/1/00	010985	0936	SAM-111

Table 1: U.S. Patent Applications (cont.)

Serial Number	Filing Date	Assignment Recordation Date	Reel	Frame	Attorney Docket Number
09/553,537	4/20/00	7/27/00	011004	0043	SAM-112
09/532,178	3/20/00	3/20/00	010687	0180	SAM-113
09/528,676	3/20/00	7/24/00	010985	0276	SAM-114
09/546,131	4/10/00	4/10/00	010732	0862	SAM-115
09/520,862	3/7/00	3/7/00	010661	0869	SAM-116
09/595,847	6/16/00	6/16/00	010908	0541	SAM-117
09/612,072	7/7/00	7/7/00	010954	0259	SAM-118
09/522,426	3/9/00	3/9/00	010659	0458	SAM-119
09/525,559	3/15/00	3/15/00	010658	0257	SAM-120
09/724,152	11/28/00	11/28/00	011297	0088	SAM-121
09/610,498	7/5/00	7/5/00	010951	0546	SAM-122
09/632,903	8/4/00	8/4/00	011033	0398	SAM-123
09/566,346	5/8/00	5/8/00	010789	0198	SAM-124
09/679,669	10/5/00	10/5/00	011162	0374	SAM-125
09/633,366	8/7/00	8/7/00	011062	0911	SAM-126
09/631,590	8/3/00	8/3/00	011038	0576	SAM-127
09/640,851	8/17/00	8/17/00	011054	0564	SAM-128
09/634,058	8/9/00	8/9/00	011063	0146	SAM-129
09/678,917	10/4/00	10/4/00	011162	0385	SAM-130
09/575,994	5/23/00	5/23/00	010863	0087	SAM-131
09/658,099	9/8/00	9/8/00	011095	0928	SAM-132
09/629,956	8/1/00	8/1/00	011039	0160	SAM-133
09/737,540	12/15/00	12/15/00	011384	0052	SAM-134
09/670,468	9/26/00	9/26/00	011138	0910	SAM-135

Table 1: U.S. Patent Applications (cont.)

Serial Number	Filing Date	Assignment Recordation Date	Reel	Frame	Attorney Docket Number
09/660,571	9/13/00	9/13/00	011090	0974	SAM-136
09/742,030	12/20/00	12/20/00	011405	0598	SAM-137
09/642,995	8/21/00	8/21/00	011040	0097	SAM-138
09/761,618	1/16/01	1/16/01	011483	0359	SAM-139
09/724,151	11/28/00				SAM-140
09/672,924	9/28/00	1/11/01	011420	0392	SAM-141
09/637,981	8/11/00	8/11/00	011036	0532	SAM-142
09/666,218	9/21/00	9/21/00	011113	0207	SAM-143
09/660,103	9/12/00	9/12/00	011085	0380	SAM-144
09/628,834	7/31/00	7/31/00	011034	0889	SAM-145
09/715,679	11/17/00	11/17/00	011309	0941	SAM-146
09/679,699	10/5/00	10/5/00	011162	0163	SAM-147
09/777,756	2/5/01	2/5/01	011546	0741	SAM-148
09/699,849	10/30/00	10/30/00	011272	0086	SAM-149
09/699,591	10/30/00	10/30/00	011268	0690	SAM-150
09/699,589	10/30/00				SAM-151
09/803,309	3/9/01				SAM-154
09/702,523	10/31/00	10/31/00	011270	0600	SAM-155
09/715,372	11/17/00	11/17/00	011326	0897	SAM-156
09/737,507	12/15/00	12/15/00	011378	0272	SAM-157
09/739,186	12/18/00	12/18/00	011367	0781	SAM-158
09/740,512	12/19/00	12/19/00	011404	0969	SAM-159
09/777,446	2/6/01	2/6/01	011543	0559	SAM-160
09/777,547	2/6/01	2/6/01	011528	0156	SAM-161

Table 1: U.S. Patent Applications (cont.)

Serial Number	Filing Date	Assignment Recordation Date	Reel	Frame	Attorney Docket Number
09/693,157	10/20/00	10/20/00	011266	0545	SAM-162
09/735,864	12/13/00	12/13/00	011372	0581	SAM-163
09/731,385	12/6/00	12/6/00	011359	0422	SAM-164
09/774,859	1/31/00				SAM-165
09/791,938	2/23/01	2/23/01	011578	0266	SAM-166
09/775,231	2/1/01	2/1/01	011527	0937	SAM-167
09/733,255	12/8/00	12/8/00	011357	0188	SAM-168
09/714,325	11/15/00	11/15/00	011309	0533	SAM-169
09/704,988	11/2/00	3/12/01	011593	0585	SAM-170
09/704,987	11/2/00	2/5/01	011516	0112	SAM-171
09/780,830	2/9/01	2/9/01	011549	0823	SAM-172
09/771,242	1/26/01	1/26/01	011494	0645	SAM-173
09/793,314	2/26/01	2/26/01	011578	0041	SAM-174
09/768,649	1/24/01	1/24/01	011478	0829	SAM-175
09/758,708	1/11/01	1/11/01	011453	0172	SAM-176
09/826,203	4/4/01				SAM-179
09/751,182	12/29/00	12/29/00	011418	0850	SAM-182
09/727,459	12/1/00	12/1/00	011359	0234	SAM-183
09/768,942	1/24/01	1/24/01	011484	0297	SAM-185
09/800,554	3/7/01	3/7/01	011589	0915	SAM-186
09/791,908	2/22/01	2/22/01	011581	0129	SAM-188
09/791,910	2/22/01	2/22/01	011581	0074	SAM-190
09/783,064	2/14/01				SAM-191
09/775,230	2/1/01				SAM-192

Table 1: U.S. Patent Applications (cont.)

Serial Number	Filing Date	Assignment Recordation Date	Reel	Frame	Attorney Docket Number
09/750,943	12/28/00	2/26/01	011542	0791	SAM-194
09/794,800	2/27/01	2/27/01	011570	0410	SAM-197
60/267,908	2/9/01				SAM-204PR
60/273,890	3/6/01				SAM-211PR

Table 2: U.S. Patents

Patent Number	Issue Date	Assignment Recordation Date	Reel	Frame	Attorney Docket Number
6,122,698	9/19/00	4/16/98	9126	0430	SAM-002
6,021,484	2/1/00	5/5/98	9212	0986	SAM-007
6,074,940	6/13/00	10/19/98	9579	0533	SAM-008
6,175,145	1/16/01	11/30/98	9621	0442	SAM-008CIP
5,973,329	10/26/99	7/6/98	9309	0670	SAM-009
6,218,715	4/17/01	9/8/98	9448	0485	SAM-013
5,929,483	7/27/99	10/23/98	9549	0096	SAM-014
6,207,519	3/27/01				SAM-014DV
6,148,426	11/14/00	4/28/98	9143	0255	SAM-017
5,999,023	12/7/99	5/14/98	9184	0606	SAM-018
6,121,893	9/19/00	8/19/98	9403	0901	SAM-019
6,028,496	2/22/00	6/3/98	9221	0020	SAM-021
6,121,825	9/19/00	9/21/98	9474	0825	SAM-022
5,943,262	8/24/99	10/28/98	9558	0696	SAM-026
6,100,764	8/8/00	1/4/99	9695	0711	SAM-027
6,147,385	11/14/00	12/22/98	9674	0988	SAM-028
6,061,270	5/9/00	12/28/98	9684	0090	SAM-029
5,990,514	11/23/99	10/2/98	9496	0822	SAM-030
5,952,952	9/14/99	9/14/98	9448	0982	SAM-031
6,169,717	1/2/01	7/20/98	9332	0332	SAM-032
6,069,831	5/30/00	10/26/98	9549	0802	SAM-033
6,184,907	2/6/01	9/15/98	9455	0030	SAM-035
6,192,016	2/20/01	11/6/98	9577	0157	SAM-036
6,175,481	1/16/01	3/23/99	9850	0274	SAM-037

Table 2: U.S. Patents (cont.)

Patent Number	Issue Date	Assignment Recordation Date	Reel	Frame	Attorney Docket Number
5,991,203	11/23/99	10/27/98	9561	0574	SAM-039
6,128,693	10/3/00	9/21/98	9470	0459	SAM-040
5,936,890	8/10/99	9/29/98	9505	0924	SAM-044
6,122,188	9/19/00	12/23/98	9680	0378	SAM-045
6,157,575	12/5/00	3/23/99	9850	0217	SAM-046
5,982,224	11/9/99	12/2/98	9629	0049	SAM-047
5,959,922	9/28/99	10/26/98	9549	0764	SAM-050
6,091,663	7/18/00	10/28/98	9560	0517	SAM-051
6,122,762	9/19/00	10/30/98	9568	0111	SAM-055
6,127,959	10/3/00	1/4/99	9695	0658	SAM-057
6,208,092	3/27/01	11/16/98	9592	0930	SAM-058
6,130,724	10/10/00	11/23/98	9603	0103	SAM-062
6,100,769	8/8/00	3/23/99	9850	0038	SAM-063
6,188,060	2/13/01	4/5/99	9906	0240	SAM-064
6,141,229	10/31/00	7/8/99	010093	0403	SAM-074
6,229,362	5/8/01	6/15/99	010041	0140	SAM-077
6,172,516	1/9/01	7/9/99	010099	0815	SAM-078
6,201,756	3/13/01	3/3/00	010659	0557	SAM-082
6,188,631	2/13/01	5/30/00	010860	0928	SAM-089
6,236,616	5/22/01	2/25/00	010636	0772	SAM-101
6,197,636	3/6/00	3/14/00	010694	0776	SAM-102

Samsung Electronics Co., Ltd., a Korean corporation, having a place of business at 416, Maetan-dong, Paldal-gu, Suwon-city, Kyungki-do, Republic of Korea, certifies that it is the assignee of the entire right, title and interest in the U. S. patent applications identified in Table 1 above and the U. S. patents identified in Table 2 above by virtue of assignments from the inventors of the patent applications and patents, which assignments are recorded in the U. S. Patent and Trademark Office at the reels and frames identified in the tables.

The undersigned has reviewed all documents in the chain of title of the patent applications and patents identified in the tables and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned (whose title is supplied below) is empowered to sign this certificate on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Name: Jay Shim

Title: Director/General Manager & General Patent Counsel, Samsung Electronics Co.,Ltd.

Signature: 

Date: June 4, 2001

RECORDATION FORM COVER SHEET
PATENTS ONLY

To the Honorable Commissioner of Patents and Trademarks: Please record the attached original documents or copy thereof.

1. Name of conveying party(ies):

Won-Suk Yang
Sang-Ho Song
Hong-Sik Jeong
Ki-Nam Kim

Additional name(s) of conveying party(ies) attached? ☐ Yes ☒ No

2. Name and address of receiving party(ies):

Name: Samsung Electronics, Co., Ltd.

Internal Address: _____

Street Address: 416, Maetan-dong, Paldal-gu,
Suwon-city, Kyungki-do, Republic of Korea

City: _____ State _____ ZIP _____

Additional name(s) & address attached? ☐ Yes ☒ No

3. Nature of conveyance:

- ☒ Assignment ☐ Merger
☐ Security Agreement ☐ Change of Name
☐ Other _____

Execution Date: October 26, 2000 and October 27, 2000

4. Application number(s) or patent number(s):

If this document is being filed together with a new application, the execution date of the application is: October 26 and 27, 2000

A. Patent Application No.(s)

B. Patent No.(s)

Additional numbers attached? ☐ Yes ☒ No

5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Anthony P. Onello, Jr.

Internal Address: Samuels, Gauthier & Stevens LLP

Street Address: 225 Franklin Street, Suite 3300

City: Boston State MA ZIP 02110

6. Total number of applications and registrations involved

1

7. Total fee (37 CFR 3.41)..... \$40.00

- ☒ Enclosed
☐ Authorized to be charged to deposit account

8. Deposit Account Number:

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9. Statement and signature:

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

Anthony P. Onello, Jr.

Name of Person Signing

Anthony P. Onello, Jr.
Signature

October 30, 2000
Date

Total number of pages including cover sheet, attachments, and document 3

Mail documents to be recorded with required cover sheet information to:
Commissioner of Patents and Trademarks, Box Assignments
Washington, D.C. 20231

K:\Samsung\151\PTO1595.w

ASSIGNMENT

We, Won-Suk Yang of Poonglim APT 201-507, Dongchun-Ri, Sooji-Eup, Yongin-City, Kyungki-Do, Republic of Korea, Sang-Ho Song of Bongchun Donga APT 109-1004, Bongchun 2 Dong, Kwamak-Ku, Seoul, Republic of Korea, Hong-Sik Jeong of LG-Samick APT 112-204, Homacail-Dong, Kwansun Ku, Suwon City, Kyungki-Do, Republic of Korea, and Ki-Nam Kim of Kummaeul Life APT 108-502, Pyungchon-Dong, Dongan-Ku, Anyang-City, Kyungki-Do, Republic of Korea, having invented improvements in BIT LINE LANDING PAD AND BORDERLESS CONTACT ON BIT LINE STUD WITH LOCALIZED ETCH STOP LAYER FORMED IN VOID REGION, AND MANUFACTURING METHOD THEREOF described in an application for Letters Patent of the United States, executed by us on even date herewith, for good and valuable consideration, receipt of which is hereby acknowledged from Samsung Electronics Co., Ltd., a Korean corporation having a place of business at 416, Maetan-dong, Paldal-gu, Suwon-city, Kyungki-do, Republic of Korea (and hereinafter called the Assignee, which term shall include its successors and assigns), do hereby sell, assign and transfer unto the Assignee our entire right, title, and interest in and throughout the United States of America (including its territories and dependencies) and all countries foreign thereto, in and to and under said application (which term shall include hereinafter where the context so admits all divisional, continuing, reissue and other patent applications based thereon) and the inventions (which term shall include each and every such invention, or part thereof) therein described, and any and all patents and like rights of exclusion (including extensions thereof) of any country which may be granted on or for said inventions or on said application;

And for the same consideration We do also hereby sell, assign, and transfer unto the Assignee, all our rights under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, and all other treaties of like purpose in respect of said inventions and said application, and We do hereby authorize the Assignee to apply in our name or its own name or its designee for patents and like rights of exclusion on or for said inventions in all countries, claiming (if the Assignee so desires) the priority of the filing date of said application under the provisions of said Convention, Treaty or any such other Convention or Treaty;

And for the same consideration, We do hereby agree for ourselves and for our heirs, executors, and administrators, promptly upon request of the Assignee to execute and deliver without further compensation any power of attorney, assignment, original, divisional, continuing, reissue or other application or applications for patent or patents or like rights of exclusion of any country, or other lawful documents and any further assurances that may be deemed necessary or desirable by the Assignee, fully to secure to it said right, title, and interest as aforesaid in and to said inventions, applications, and said several patents and like rights of exclusion (including extensions thereof) or any of them, all, however, at the expense of the Assignee, its successors, or assigns;

And We do hereby authorize and request the Commissioner of Patents and Trademarks of the United States of America and the corresponding Official of each country foreign thereto to issue to the Assignee, any and all patents and like rights of exclusion which may be granted in any country upon said United States application on or for said inventions;

And We do hereby covenant for ourselves and our legal representatives and agree with the Assignee, that We have granted no right or license to make, use, or sell said inventions to anyone except the Assignee, that prior to the execution of this deed our right, title, and interest in and to said inventions has not been otherwise encumbered by us, and that We have not executed and will not execute any instruments in conflict herewith

First or Sole Inventor:

Signature

Won-Suk Yang
Won-Suk Yang

Date: October 26, 2000

Second Joint Inventor:

Signature

Sang-Ho Song
Sang-Ho Song

Date: October 27, 2000

Third Joint Inventor:

Signature

Hong-Sik Jeong
Hong-Sik Jeong

Date: October 26, 2000

Fourth Joint Inventor:

Signature

Ki-Nam Kim
Ki-Nam Kim

Date: October 26, 2000

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